

原規規発第 2301173 号
令和 5 年 1 月 17 日

日本原燃株式会社
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原子力規制委員会

核燃料輸送物設計承認英文証明書について

核燃料物質等の工場又は事業所の外における運搬に係る核燃料輸送物設計承認及び容器承認等に関する申請手続ガイド（令和 2 年 2 月 26 日付け原規規発第 2002264 号）2.4.に基づき、令和 5 年 1 月 12 日付け 2022 濃計発第 62 号をもって申請のあった標記の件について、添付のとおり証明します。

IDENTIFICATION MARK

J/2046/H(U)

COMPETENT AUTHORITY
OF
JAPAN

CERTIFICATE FOR APPROVAL OF
PACKAGE DESIGN
FOR THE TRANSPORT OF
RADIOACTIVE MATERIALS

ISSUED BY

NUCLEAR REGULATION AUTHORITY
1-9-9, ROPPONGI MINATO-KU
TOKYO, JAPAN

CERTIFICATE FOR APPROVAL OF PACKAGE DESIGN
FOR THE TRANSPORT OF RADIOACTIVE MATERIALS

This is to certify, in response to the application by Japan Nuclear Fuel Limited, that the package design described herein complies with the design requirements for a package containing Natural Uranium Hexafluoride, specified in the 2018 Edition of the Regulations for the Safe Transport of Radioactive Material (International Atomic Energy Agency, Safety Standards Series No.SSR-6) and the Japanese rules based on the Act on Regulation of Nuclear Source Material, Nuclear Fuel Material and Reactors. This certificate does not relieve the consignor from compliance with any requirement of the government of any country through or into which the package will be transported.

COMPETENT AUTHORITY

IDENTIFICATION MARK: J/2046/H(U)

Jan / 17 / 2023

Date


Hasegawa Kiyomitsu

Director, Division of Licensing for
Nuclear Fuel Facilities

Secretariat of Nuclear Regulation Authority
Competent Authority of JAPAN
for Package Design Approval

1. The Competent Authority Identification Mark : J/2046/H(U)
2. Name of Package : 48Y-JDTC
3. Type of Package : Type IP-1, Uranium Hexafluoride Package
4. Specification of Package
 - (1) Materials of Packaging : See Table-1
 - (2) Total Weight of Packaging : 3,140 kg or less
 - (3) Outer Dimensions of Packaging
 - (i) Diameter : Approximately 1.4 m
 - (ii) Length : Approximately 4.1 m
 - (4) Total Weight of Package : 15,640 kg or less
 - (5) Illustration of Package : See Figure
5. Specification of Radioactive Contents : See Table-2
6. Description of Containment System

Containment system consists of 48Y cylinder, valve and plug.
7. For Package Containing Fissile Materials

Not applicable.
8. For Type B(M) Packages, a statement regarding prescriptions of Type B(U) Package that do not apply to this Package

Not applicable.
9. Assumed Ambient Conditions
 - (i) Ambient Temperature Range : $-40\text{ }^{\circ}\text{C} \sim 38\text{ }^{\circ}\text{C}$
 - (ii) Insolation Data : Table 12 of IAEA Regulation
10. Handling, Inspection and Maintenance
 - (1) Handling Instructions
 - (i) Package should be handled carefully in accordance with the schedule and procedures established properly taking all possible safety measures.
 - (ii) Package should be handled using appropriate lifting devices such as forklift or crane.

(iii) Packaging should be stored in a specified place.

(2) Inspections and Maintenance of Packaging

The following inspections should be performed not less than once a year and defect of packaging should be repaired, if any, in order to maintain the integrity of packaging.

- (i) Visual inspection for Cylinder, Valve protector, Heat-resistance cap and Fixing device of Heat-resistance cap.
- (ii) Operating inspection and Measurement inspection for Valve protector.

(3) Actions Prior to Shipment

The following inspections should be performed prior to shipment.

- (i) Visual Inspection
- (ii) Lashing Inspection
- (iii) Surface Contamination Inspection
- (iv) Dose Rate Inspection
- (v) Contents Inspection
- (vi) Weight Inspection

(4) Precautions for Loading of Package for Shipment

Package should be securely loaded to the conveyance at the designated tie-down portion of the packaging so as not to move, roll down or fall down from the loading position during transport.

11. Issue Date and Expiry Date

- (i) Issue Date : Nov. 24, 2022
- (ii) Expiry Date : Nov. 23, 2062

However, if this certificate no longer meets the technical standards (limited to those related to the design of package) due to a revision of the regulations^{*1,2}, this certificate will be expired.

*1 The NRA Ordinance on Off-Site Transportation of Nuclear Fuel Materials, etc. (Ministerial ordinance issued by the Prime Minister's Office No. 57 of 1978)

*2 The Notification on Technical Details for Off-Site Transportation of Nuclear Fuel Materials, etc. (Notice issued by Science and Technology Agency No. 5 of 1990)

Table-1 Materials of Packaging

Component	Material
Cylinder	Carbon steel Aluminium bronze Monel (Nickel copper alloy)
Valve Protector	Carbon steel Alloy steel Cast steel
Heat-resistance Cap	Ceramic fiber Stainless steel
Fixing device of Heat-resistance Cap	Carbon steel Stainless steel

Table-2 Specification of Radioactive Contents

Material of Nuclear Fuel		Natural Uranium Hexafluoride	
Physical State		Solid (A mixture of lumps and powder)	
Total weight of Nuclear Fuel (kg)		Maximum : 12,500 Minimum : 8,800	
Enrichment (wt% or less)		0.72	
Quantity of Activity	Total (Bq or less)	4.31×10 ¹¹ (12,500 kg-UF ₆ or less)	
	Main Actinide (Bq or less)	²³⁴ U	1.08×10 ¹¹
		²³⁵ U	4.81×10 ⁹
		²³⁸ U	1.05×10 ¹¹
Burn Up Rate		Not Applicable	
Total Heat Generation Rate		Not Applicable	
Cooling Time		Not Applicable	

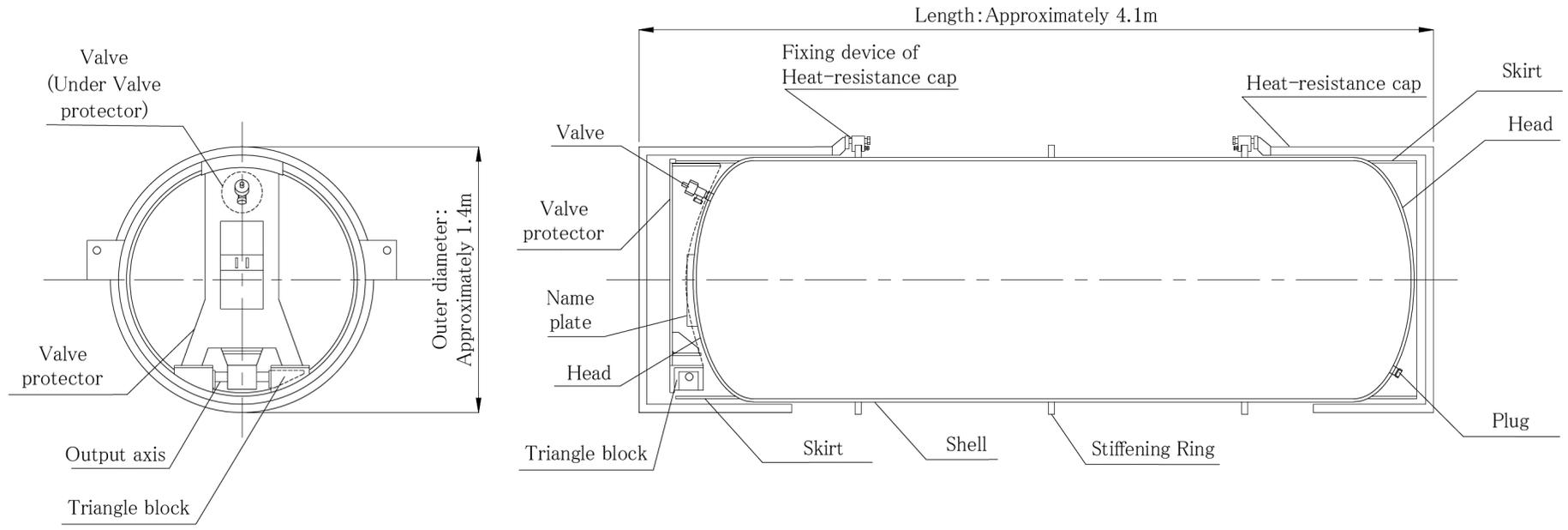


Figure Illustration of 48Y-JDTC Package